Common Disorders Affecting Sheep in Ontario

Causes of Disease

Health disorders include all diseases and conditions that compromise the productivity and well-being of your sheep. The causes of disorders can be broken down into two basic categories: infectious (transferred either directly from an infected animal or through contact with an object contaminated by an infected animal) and non-infectious (environmental causes). Subcategories of the two basic types of diseases have been briefly described in the following two tables. Although they have been separated, more than one cause may affect an animal at a given time. Indeed, many of the infectious agents are opportunistic and will flourish only when an animal is weakened due to another problem. For example, under normal conditions sheep are exposed to a wide variety of viruses, bacteria, fungi and parasites. However, they may remain healthy unless their immune system is compromised due to environmental stresses, such as poor nutrition or inadequate housing. **The connection between good management and health cannot be stressed enough, as a little prevention can dramatically protect your sheep and your pocketbook from debilitating diseases.**

Infectious Disorders

Infectious Agent	General Information	Examples
Bacteria	• single-celled microorganisms that exist either independent (free-living) or as parasites (dependent upon another organism for life). • many dependent bacteria in the body are synergetic (depend on the host, but contribute to the animal as well-e.g. rumen microbes) • two general types of bacteria based on lab methods for classifying (gram positive and gram negative), this is important when deciding which type of antibiotic to use, as particular medications will only be affective against particular organisms. A gram positive specific antibiotic will have little effect against gram negative bacteria. Some antibiotics are broad-spectrum meaning they cover a large number of bacteria types. • antibiotic resistance occurs naturally as bacteria come in contact with the drug. Antibiotic resistance is a major concern for both animal and human health. Improper use and overuse of antibiotics will greatly decrease the length of time that antibiotics will be effective	Clostridial diseases, foot rot, some types pneumonia, some abortion diseases
Virus	• smaller than bacteria and cannot grow or reproduce apart from a living cell. A virus invades living cells and 'commandeers' the cell structures to replicate. The cell is often destroyed as the virus replicates • high rate of mutation during replicating means that characteristics of virus populations can change rapidly, making development of treatments difficult • **antibiotics do not affect the progress of the diseases caused by viruses.** At times a secondary bacteria infection may develop in an animal that is weakened by a viral disease. In this circumstance antibiotics will be useful. • vaccines have been developed to protect against some types of viruses • for some (e.g. Meadi-Visna) blood tests have been developed to detect the presence of the virus in the body • some viruses will eventually be cleared from the body by the animals immune system, other viruses, once caught, will always be present	Foot and Mouth, sore mouth, rabies, Maedi-Visna
Parasites		coccidiosis, worms, keds

Prion	• prions are proteins normally found within the body's nervous tissue (nerves, spinal column, brain) • for unknown reasons these prions at times will change to a form that resists the normal mechanisms for turn over and break down • prions continue to build-up on the nerve tissue eventually causing nervous disorders	Scrapie

Non-infectious Disorders

Type	Information	Examples
Nutritional	• deficiency or excess of particular nutrients in the diet • can be acute (occur suddenly), but most often is a gradual depletion or build-up of nutrient	White muscle disease, photosensitivity, copper toxicity
Metabolic	• closely tied with nutritional disorders as they are caused by an imbalance in the nutrients supplied in diet with production demands • animal's metabolism can not meet the production demands and nutrients are extracted from the animal's system at a greater rate than they can be replenished • typically rapid onset of signs • occurs at times of sudden increases production requirements (e.g. when a ewe begins lactating) or with sudden changes in diet (e.g.hay diet directly to lush pasture)	Pregnancy toxemia, hypocalcaemia, grass staggers
Digestive	• also linked with nutrition and changes in diet • generally caused by a disruption in rumen function	Bloat
Genetic	• defects which are inherited from parents • intensive line-breeding or inbreeding programs generally cause an increase in these disorders • keeping good breeding and lambing records will greatly aid in culling the problem out of your flock	Entropion, overshot jaw

Diagnosis of Sheep Diseases

Over time most producers become adept at recognizing and treating common livestock health problems. You should try to learn as much as possible about common diseases and their signs and treatments. If you are confronted with an unfamiliar disease or are uncertain how to handle the situation, consult with your veterinarian. Quickly determining what the problem is and how to treat it may help prevent a major and costly disease outbreak. During the initial phone call to your vet, be sure to have a list of the disease signs on hand. With enough information your vet may be able to make suggestions without making a visit, particularly if he/she is very familiar with your flock management practices. A farm visit, however, may be necessary for the vet to completely assess the situation. As well as providing insights into how to treat the current situation, your vet may have valuable suggestions for preventing future occurrences.

Occasionally animals will die; this is a normal part of framing. However, you should make every effort to determine the cause of death to help prevent the problem from reoccurring and to possibly prevent more losses. Some producers may wish to do a partial post-mortem on the animal themselves to determine if there are any obvious internal signs of disease (e.g. lung abscesses, pulpy kidney etc). Producers may wish to send samples to a veterinary pathology lab for a complete post-mortem. This is particularly important if there have been multiple cases of unexplained deaths or abortions on the farm. As well as looking for visible and microscopic disturbances in body tissue, the pathology lab will be able to develop bacterial cultures to help pinpoint the exact disease cause. Samples are generally sent on referral from your farm vet (i.e. your vet will officially request the post-mortem and provide his/her own

observations at the time of submission). To obtain accurate results, the submitted sample must be fresh and/or well preserved (i.e. half decayed samples will yield an invoice, but very little useful information). Samples can generally be refrigerated, but not frozen, to help maintain tissue integrity. The status of slowly progressing diseases may be monitored by occasionally sending older, cull animals to the pathology lab for analysis. In Ontario, the Animal Health Laboratory at the University of Guelph (519-824-4120 ext 54544) and a satellite lab at Kemptville College (613-258-8320) provide testing. Some private veterinary clinics may also provide some services.

Reportable Diseases:

There are several diseases that occur in sheep that are reportable by Canadian law. If you suspect that your flock may have one of these diseases you must report it to your veterinarian, who will forward the information on to the federal authorities (Canadian Food Inspection Agency). Reportable diseases that have been known to occur in Canada include, anthrax, anaplasmosis, bluetongue (BC only), brucellosis, foot and mouth disease, rabies, scrapie, and tuberculosis.